



Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 28 Number 1

Winter 2009

Monthly meetings

Thompson Park Center/Dakota
Lodge

Thompson County Park
360 Butler Ave. E.,
West St. Paul, MN 55118
651-552-7559 (kitchen)

Programs

The Minnesota Native Plant Society meets the first Thursday in October, November, December, February, March, April, May, and June. Check at www.mnnps.org for more program information.

6 p.m. — Social period

7 – 9 p.m. — Program, society business

Feb. 5: “Community Involvement in Restoration of Prairie and Savanna in Wild River State Park,” by David Crawford, park naturalist; **Plant-of-the-Month:** *Aristida tuberculosa* (sea beach needlegrass).

Mar. 5: “Natural History of Beltrami Island,” by Scott Zager, plantecologist, Wildlands Ecological Services; **POM:** *Rubus arcticus* ssp. *acaulis* (arctic raspberry).

Apr. 2: “Between the Mississippi and the Missouri, 1838-1839: A new look at the botany of Charles Geyer,” by Charles Umbanhowar, Jr., professor of biology, St. Olaf College; **POM:** *Solidago riddellii* (Riddell’s goldenrod).

May 7: “Making a Floral Atlas for the Shakopee Mdewakanton Sioux Community,” by Victoria Ranua, environmental assessment specialist for the SMS Community; **POM:** *Solanum rostratum* (buffalo burr).

How will Minnesota spend its outdoor heritage fund?

by Scott Milburn, Minnesota Native Plant Society president

Much has happened since my last column in terms of the national election and the historic passage of the Clean Water, Land, and Legacy constitutional amendment in Minnesota. It was quite a remarkable feat for this to pass as it did, with much economic uncertainty, but this shows where our priorities are.

The next step in the process to determine how this money will be spent is no easy task. We all need to be cognizant of how this dedicated funding is spent, since we all have a vested interest.

Approximately one-third of the revenue generated from this sales tax will go toward the Lessard Outdoor Heritage Fund. As stated, this money is to be “spent only to restore, protect, and enhance wetlands, prairies, forests, and habitat for game, fish, and wildlife.” Many groups throughout the state were instrumental in getting the word out and getting this amendment passed. However, along with that come the expectations from these various groups as to how this money must be spent. The fear, when there are so many ideas and expectations, is that there will not be a comprehensive strategy. In order for this to be a success, a landscape approach would likely prove more beneficial than a piecemeal approach.

The Lessard Outdoor Heritage Council has expressed the desire and need for the citizens of Minnesota to speak up. Ultimately, this council will recommend to the Legislature how the money should be spent. My hope is that our Society will be active and vocal in keeping with our mission. It is a time for great optimism, and I encourage your involvement.

There should also be much confidence with the Society itself, as we continue to change and grow as an organization. We are now at full capacity, having nine board members. Elizabeth Heck and Dylan Lueth were appointed at the last

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Conservation Tip of the Season

by Elizabeth Nixon

This is the legislative season, and this year it is uniquely important to send ideas to your state legislators.

With an unprecedented constitutional amendment as an act of commitment to the environment, your elected representative and senator should take seriously their jobs of making sure they, as well as their constituents, are “environmentally literate,” at least for the next 25 years, the life of the amendment.

What is environmental literacy? Is it knowing the major biomes, the majority of native Minnesota plant communities and their signature species? Is it knowing the difference between sustainable and environmentally damaging public infrastructure when northern Minnesota or sensitive landscapes are under development pressure? Who should be environmentally literate? Perhaps it should be every Minnesota high school graduate.

In essence, what responsibility does the state now have to ensure that as many citizens as possible understand the next 25 years of spending on the environment? Perhaps the Green Jobs Task Force weblog should be the place to carry out a public debate on these questions. It can also be started on the Native Plant Society blog by any energetic individual.

These questions will be topics for the Conservation Committee, and all with views on the issues are invited to participate during the season/session.

Society's balance sheet grew in 2008

Treasurers Ron and Cathy Huber reported that the Society's 2008 income was \$2,443.30 higher than its expenses.

Total income for the year was \$17,588.37. Total expenses were \$15,145.07. Expenses included three grants—Newcomb guides to a school, \$271.80; school bussing for field trips, \$300; and microscopes for the Herbarium, \$1,614.64.

Assets on Nov. 15, 2008, totalled \$24,645.89.

Minnesota Native Plant Society's purpose

(Abbreviated from the bylaws)

This organization is exclusively organized and operated for educational and scientific purposes, including the following.

1. Conservation of all native plants.
2. Continuing education of all members in the plant sciences.
3. Education of the public regarding environmental protection of plant life.
4. Encouragement of research and publications on plants native to Minnesota.
5. Study of legislation on Minnesota flora, vegetation, ecosystems.
6. Preservation of native plants, plant communities, and scientific and natural areas.
7. Cooperation in programs concerned with the ecology of natural resources and scenic features.
8. Fellowship with all persons interested in native plants through meetings, lectures, workshops, and field trips.

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MN NPS website

For current information about
MN NPS field trips, meetings, and
other events, check the website:
www.mnnps.org

Introducing...

Dylan Lueth, board member

Dylan Lueth is the Native Plant Society's newest board member. He is a biologist with Midwest Natural Resources and has worked there for two years. His focus is on rare plant surveys, which has brought him to many different locations throughout the state, although much of his time has been spent in Northern Minnesota.

Dylan grew up in the rural town of Arlington, Minn., with an ever growing interest in the outdoors. After graduation, he moved to Trenton, Ohio, and enrolled at Miami University of Ohio. He continued his studies at the University of Minnesota, Duluth, and graduated with a Bachelor of Science in biology and a minor in chemistry. He started his career as a coatings chemist in Rockford, Minn., but soon lost his lab coat. Outside of work, Dylan is an avid ice fisher and continues his interest in chemistry through home brewing.

Dylan has been a member of the Native Plant Society for two years. He decided to become a board member with the goal of helping the Society continue to expand its membership and maintain its prestigious reputation.

Elizabeth Heck, board member

Elizabeth Heck recently joined the Minnesota Native Plant Society Board after volunteering on the Society's Conservation Committee for the past few years.

Elizabeth holds a degree from the University of Minnesota and spent most of her career with a small engineering firm as a proposal writer, GIS specialist and consultant. She transitioned into a graphic designer and will offer those skills to the society, including development of a new website.

Elizabeth has worked as a naturalist for Eloise Butler Wildflower Garden and serves in

numerous volunteer capacities as a Minnesota Master Naturalist. Her passion for botanizing, plant uses and conservation led to training as an herbalist, in which education about botanical sustainability is a priority. Elizabeth's painting and photography consume her spare time and reflect the "hand lens view" of nature's plant beauty. She is honored to be a part of the board and the good work of the plant society.

Andrés F. Morantes, secretary

Andrés hails from Plymouth, Minn., and currently resides in Minneapolis. He is a senior at the University of Minnesota and plans to graduate in May 2009 with a Bachelor of Science degree in ecology. He became interested in ecology as a teenager while spending time outdoors working as a summer camp counselor and from traveling into the Costa Rican rainforests when visiting his extended family.

Currently, he works part-time at the Bell Museum of Natural History Herbarium, where he mounts plants. As an undergraduate, he has served as officer and project manager for the University's Fisheries, Wildlife, and Conservation Biology Club. He has been an MN NPS member for one year.

You can be a Lifetime member

by Ron Huber

The MN NPS board recently voted to offer a new category of membership — Lifetime — consistent with those offered by other natural history organizations. Most organizations offering this category make it a 20-year multiple of the standard individual membership. Thus, the Lifetime membership for MN NPS is set at \$300. (We will continue to award honorary Lifetime memberships.)

Jason Husveth, our former president, is our very first paid Lifetime member. Thanks, Jason.

President's column

Continued from page 1

board meeting to fill two vacancies. Both new board members bring energy and enthusiasm, and I look forward to their future efforts. We also have a new secretary serving the Society, Andrés Morantes. One other change you will soon notice is a remodeled website. Besides being a board member, Elizabeth Heck has graciously taken over as webmaster.

I would like to remind everyone that this group is solely dependent and run through volunteer effort. By utilizing the talents and skills of our membership, we are able to put our financial resources towards other efforts.

The board has been watchful to not frivolously donate excess resources. Just recently, the board approved the purchase of two new dissecting microscopes, which were donated to the Bell Museum of Natural History Herbarium. The two scopes are now at the herbarium and are available for anyone who stops by.

In closing, I would like to thank the folks who made our last meeting in December a memorable event. I first would like to thank Lifetime MN NPS member Welby Smith for his great contribution with his book, *Trees and Shrubs of Minnesota*. I would also like to thank Carmen Converse and Jan Wolff for their help at the event. Lastly, I would like to thank Erik Anderson at the University of Minnesota Press for making sure we had the books in time for the meeting.

We had more than 100 folks in attendance and sold over 120 books. This was likely our best attended monthly program in years. We are always hoping to build on the momentum, and Linda Huhn has been doing a great job lining up the remaining talks for the year. I look forward to these programs and hope to see those who can attend.

Inventory shows extent of non-native invasive plants in Minnesota forests

by W. Keith Moser, Mark D. Nelson, and Mark H. Hansen, U.S. Forest Service, Northern Research Station, Forest Inventory and Analysis. This article summarizes Keith Moser's presentation at the Minnesota Invasives Species conference in Duluth in October 2008.

Readers are no doubt aware of the impact that non-native invasive plants (NNIP) present to Minnesota's ecosystems. The U.S. Forest Service's Northern Research Station (NRS) Forest Inventory and Analysis (FIA) Program is studying what determines where these plants are found, including forest type, tree density, disturbance, productivity, and topography.

Over the past decade, the NRS-FIA program has measured NNIP over a large network of inventory plots. Minnesota's forest inventory is "double intensity," meaning that there are two plots for every 6,000 acres, and field crews search for 25 species that are considered the worst NNIP on four 24-foot-radius subplots at each forested plot location.

The following list represents those species our stakeholders believe are likely to have a significant impact within 11 states of the Upper Midwest, including Minnesota. Inventory results provide information on individual tree species, diameter, and height. Measurements of overstory basal area and stand density index provide estimates of density.

Non-native invasive plants surveyed on FIA plots, 2005-2006

Woody species

Multiflora rose, *Rosa multiflora*
Japanese barberry, *Berberis thunbergii*
Common buckthorn, *Rhamnus cathartica*

Autumn olive, *Elaeagnus umbellata*
Nonnative bush, *Lonicera* spp.
European privet, *Ligustrum vulgare*

Vines

Kudzu, *Pueraria montana*
Porcelain berry, *Ampelopsis*
Asian bittersweet, *Celastrus orbiculatus*
Japanese honeysuckle, *Lonicera japonica*
Chinese yam, *Dioscorea*
Black swallowwort, *Cynanchum louiseae*
Wintercreeper, *Euonymus fortunei*

Grasses

Reed canary grass, *Phalaris*
Phragmites, Common reed, *Phragmites*
Nepalese browntop, Japanese, *Microstegium*

Herbaceous

Garlic mustard, *Alliaria petiolata*
Leafy spurge, *Euphorbia esula*
Spotted knapweed, *Centaurea*
Dame's rocket, *Hesperis matronalis*
Mile-a-minute weed, Asiatic, *Polygonum*
Common burdock, *Arctium minus*
Japanese knotweed, *Polygonum*
Marsh thistle, *Cirsium palustre*

The locations of NRS-FIA plots with non-native invasive plants in Minnesota's forests are shown in the map. Woody invasive species were particularly common, while the few herbaceous NNIP observed were located along the oak/prairie ecotone.

Of the 2,445 plots sampled in this study so far, only about 5 percent had one or more of the 25 invasive species of interest. Only nine of the NNIP on our list were observed and only one — common buckthorn (125 plots) — was found in large numbers. Some of the most prominent forest types in our state,

such as aspen, black spruce, and paper birch, had few instances of the invasive plant species. The forest types with the most observations of invasive plants in Minnesota — white oak/red oak/hickory and sugarberry/hackberry/elm/green ash — are either mid-shade tolerant species that rely upon disturbance to maintain their position, or riparian species subject to frequent anthropogenic disturbance over their range.

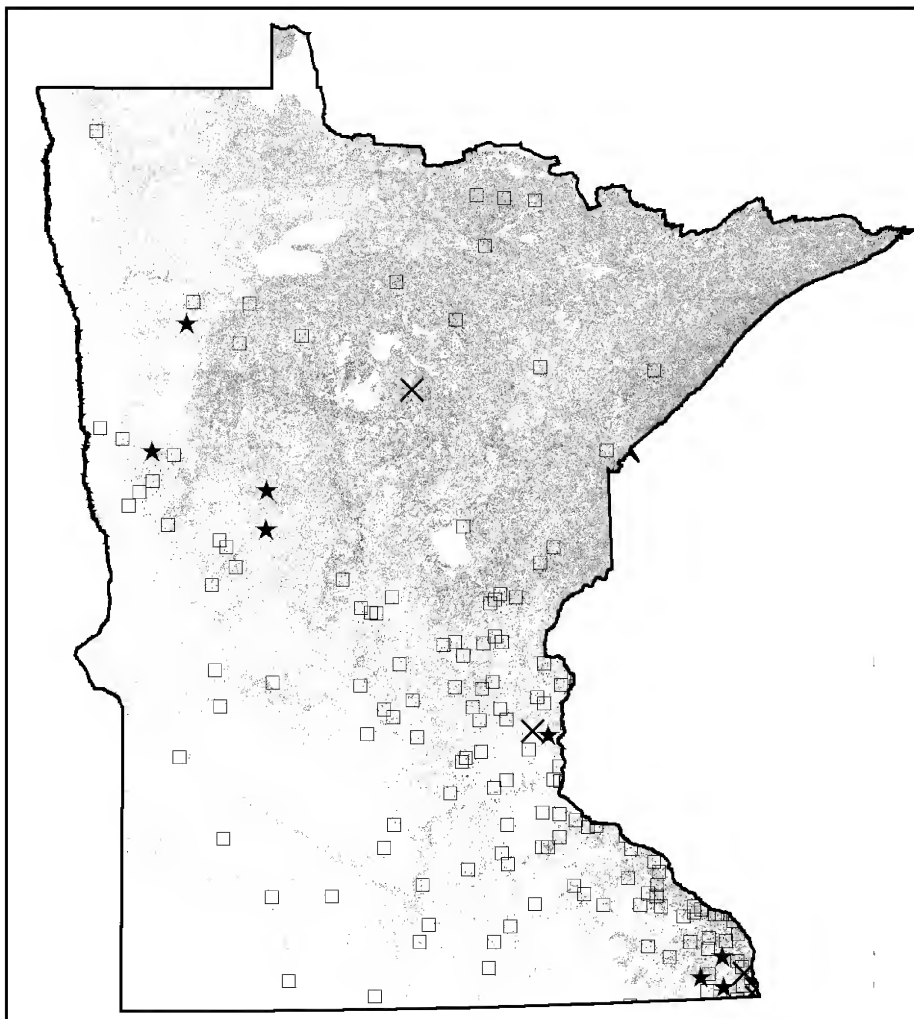
Species of NNIP found in Minnesota forested plots, 2005-2006.

The number of forested plots on which each species was found is in parentheses.

Most prominent species:
Common buckthorn (125)
Non-native bush honeysuckles (22)
Common burdock (10)
Reed canary grass (4)
Japanese barberry (3)
Multiflora rose (2)
Garlic mustard (2)
Glossy buckthorn (1)
Autumn olive (1)
European privet (2)
Marsh thistle (1)

Given the history of natural and human-caused disturbance and forest types whose shade tolerance means the growing space might not be completely occupied, the authors expected to find multiple relationships between NNIP and forest and site characteristics.

In a regional study, Moser et al. (2008) found that measurements of disturbance and fragmentation were significantly related to NNIP presence and cover. The percentage of total county area in forests was very closely related to the presence of almost every one of the 25 species; the higher the percentage of forest, the less likely one would



Invasive Plots (2005-2006)

Species Group

- × Grasses
- ★ Herbaceous
- Woody

Live tree volume (Cubic feet/acre)

- < 500
- 500 - 2,500
- > 2,500

likely occurred many years ago. We are presently conducting a region-wide analysis using inventory and weather data and other information sources to follow up on our initial measurements and analysis.

Prairie restoration techniques studied at Lamberton

How can native prairies be more successfully recreated? Researchers at the University of Minnesota's Southwest Research and Outreach Center at Lamberton are seeking answers.

Experiments at test plots in the center's 30-acre native prairie restoration site will help determine better ways to restore native grasses and forbs. So far, inclusion of cool-season grasses in seed mixes seems to be critical, and fall planting works best.

How can non-native, invasive Canada thistles be best controlled? Researchers are testing whether herbicides can be used selectively to reduce thistle growth without excessive damage to native forbs.

A third project seeks to stop native grasses, which grow quickly, from preventing slower-growing forbs from being established. The solution to this problem has not yet been found.

Cartographer Mark Nelson, Forest Inventory and Analysis, USDA Forest Service, Northern Research Station, prepared this map, using FIA and ESRI data and maps.

find invasive plants.

A combination of fragmentation measures (Heilmann et al. 2001) was positively associated with the presence of common buckthorn, multiflora rose, and non-native bush honeysuckles, as well as reed canary grass. Distance from the nearest road seemed to have a significant negative association.

These results suggest that site productivity was good for multiflora rose coverage in the Upper Midwest and was negatively associated with non-native bush honeysuckle coverage. While certain measures of density and stand age seemed to be negatively correlated with (any) NNIP presence and abundance, Moser et al. (2008) did not find as strong relationships with individual invasive plant species.

Our challenge is separating human influence from some ecological advantage of the invading plants. One could easily argue that our results reflect the heavily disturbed nature of Minnesota's second- and third-generation forests. The characteristics of the landscape that we found to influence invasive species presence may also be a significant influence on homestead choice by settlers.

Analysis of invasive species at one point in time is usually not sufficient to evaluate trends in regeneration, expansion, or growth. The FIA database tracks disturbance and silvicultural treatments, but only in the interval since the previous inventory. The human activities that resulted in the establishment of these non-native invasive species

New book describes Minnesota trees, shrubs

"Trees and Shrubs of Minnesota," by DNR botanist Welby Smith, published by the University of Minnesota Press; 703 pages; \$59.95. The following book description is by Welby Smith.

This new book covers all the native and naturalized woody species in Minnesota. That includes 92 native tree species, 131 native shrubs, and 12 native vines. Add to this 15 naturalized species, and the total reaches 250.

The book begins with a 14-page introduction that includes descriptions and maps of the soils and climate of Minnesota, and discussions of ecological regions. This section also has maps of tree distribution based on bearing tree data from the Public Land Survey that was conducted at the time of settlement. This part is followed by a key to the genera of woody plants in Minnesota.

The next part (the main body of the book) contains the detailed species accounts. Each species gets two pages. The left page has the text, including a scientific description, tips on identification, and a discussion of natural history. This page also has a North American range map and a Minnesota distribution map.

The facing page has color photographs of the leaves, flowers, fruit and bark. There is also an ink drawing of the winter silhouette of each tree species and most of the larger shrubs. If a genus has more than one species, then it is preceded by an identification key to the species. The large and difficult genera of willows, oaks and hawthorns have comparison pages where life-size

drawings of the leaves are compared side-by-side.

At the end of the species accounts is a seven-page glossary that includes illustrations of different leaf shapes and leaf margins. There is also an eight-page bibliography of scientific papers cited in the species accounts.

This is not a small book; it measures 8.5 by 10.25 inches and weighs in at slightly over five pounds. It is bound in a sturdy green embossed hardcover with a dust jacket. The author will tell you that he worked on it for 14 years, but in truth it is the work of a lifetime.

Most online sources are selling it at a discount, which brings the price down to around \$50, which is not insignificant in these days of recession. So, if you can't afford to buy a copy, check it out from your local library or borrow a copy from a friend, and let the author know what you like about it and what you don't. He just might live long enough to write a second edition.



Purple coneflowers, *Echinacea angustifolia*, are found in the Aspen Parklands.

Orchid photos needed for book

The University of Minnesota Press has decided to publish a new edition of the out-of-print 1993 book *Orchids of Minnesota* by Welby Smith. The first edition had a small section of color photographs in the center of the book.

The second edition is to have color photographs throughout the book. Toward this goal, they are soliciting high-quality photos of 49 orchids from local photographers. The photos can be film or digital but must be sharp and show fine detail.

For a list of orchids or for additional information, direct inquiries to Todd Orjala at t-orja@umn.edu

Symposium to be April 4 at Bell Museum

The Aspen Parklands subsection in northwestern Minnesota will be the topic of this year's MN NPS symposium.

This subsection is part of the greater Tallgrass Aspen Parklands Province that expands north into Canada. This region is a transitional landscape between the Laurentian Mixed Forest and the Prairie provinces that had once been Glacial Lake Agassiz.

The symposium will be April 4 at the Bell Museum of Natural History on the University of Minnesota campus in Minneapolis.

The Symposium Committee is finalizing the speakers for the event. Brochures will be mailed in February to Society members and will also be available online at our website, www.mnnps.org

Plant Lore

by Thor Kommedahl

What is anise root?

Anise root is *Osmorhiza longistylis* in the carrot family (*Apiaceae/Umbelliferae*). Another name is sweet cicely; *O. claytonii* is also called sweet cicely, but not anise root. Style length and root scent separate the species. Both species are native to Minnesota.

How did it get its names?

The genus name comes from a Greek word *osme* meaning scented or fragrant and *rhiza* meaning root. *Longistylis* refers to the long style—longer than the petals. Cicely comes from a Latin and Greek word *seselis*, and sweet refers to the anise-scented root. *Osmorhiza claytonii* has roots with little or no anise scent and is named after John Clayton, a Virginia botanist (1694-1773). Anise smells like licorice.

What do the plants look like?

Anise root is a perennial, herbaceous plant one to three feet tall, with insect-pollinated, white flowers borne in clusters (umbels). Styles are longer than the petals. It has fern-like leaves, three times compoundly divided with egg-shaped leaflets. The dark purple fruits (schizocarps) cling to clothing. *Osmorhiza longistylis* is smooth, whereas *O. claytonii* is hairy. Plants bloom April to June.

Where does it grow?

Both species grow in moist woodlands throughout the state.

Does it have any medicinal properties?

American Indians made a poultice from roots to apply to boils and wounds. They also made a root tea for general debility and as a tonic.

Is it edible or poisonous?

Leaves, fruits, and roots have



***Osmorhiza longistylis* (anise root), photos by Peter Dziuk.**

been added to salads for the anise flavor. Plants are not poisonous but have been confused with poison hemlock in the same family.

What other features are there?

It has been grown in wild flower gardens, and hybrids have been developed. Black swallowtail butterflies feed on plants. Bees suck nectar and collect pollen from them. Horses have been attracted to roots.

Rare Species Guide is online

Profiles of more than 430 Minnesota endangered, threatened, and special concern species are available in a new, searchable database from the Minnesota Department of Natural Resources Division of Ecological Resources.

The guide is Minnesota's authoritative reference for the state's endangered, threatened, and special concern species and serves as an update to the 1988 book, *Minnesota's Endangered Flora and Fauna*.

The list was last revised in 1996, but it is currently undergoing a formal rule revision process. Once that has been completed, additional species profiles will be added to *The Rare Species Guide*, and status designations and taxonomy information will be updated.

Information on the website includes:

- Taxonomic information;
- State, federal status designations;
- State and North American range maps;
- Color photos and/or illustrations;
- Reason a species is listed;
- Description, habitat, life history;
- Conservation, management issues and recommendations;
- Life form, longevity, leaf duration, water regime, soil and light requirements, phenology for all vascular plants.

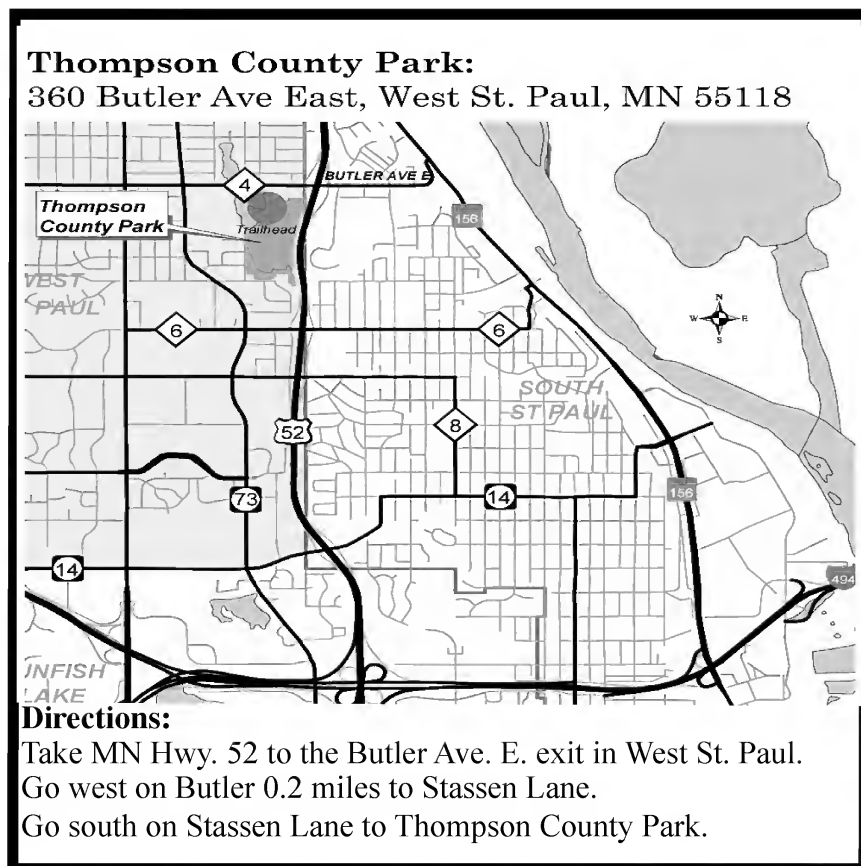
There are three ways to search for species information:

- A-Z list — find by either common or scientific name;
- Filtered search — find groups of species by broad taxonomic group;
- Keyword search — find a word or phrase within species' profiles.

To access the guide, go to www.mndnr.gov/rsg

Minnesota Native Plant Society
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May 7: "Making a Floral Atlas for the Shakopee Mdewakanton Sioux Community," Victoria Ranua, environmental assessment specialist for the SMS Community; **Plant-of-the-Month:** *Solanum rostratum* (buffalo bur).

June 4: "Western Prairie Fringed Orchid: an Enigmatically Declining Species," by Nancy Sather, DNR ecologist; **Annual plant sale.**

Oct. 1: Program to be announced.

MNNPS website

For current information about Society field trips, meetings and other events, check the website: www.mnnps.org

The site also contains all of the newsletters since 1982, committee contacts, and a variety of volunteer opportunities.

Unregulated floodplains: good for plants, people

by Beth Nixon, MNNPS Conservation Committee chair

Adaptation to the greater powers of the Earth has made numerous native plant species, anthropomorphically, look forward to the floods of spring for their livelihood. Rivers still unregulated enough to escape their banks in the spring nourish floodplains and backwaters with the spring flush of the land's meltwaters. Viewed from Google Earth, unregulated river floodplains stand out as a prominent signature of floodplain forests — chockfull of native plant species in balance with the annual flooding ritual. Up close, floodplains present themselves with tall forests of silver maple with elm, ash, cottonwood, and often laced with riverbank grape vines. Underfoot, carpets of herbs rise and fall on an annual basis, surviving on the nourishment of spring floods.

These floodplains welcome flooding, and people who find these unregulated places learn to appreciate the power and beauty of the spring ritual. Conservation of these unregulated rivers and floodplains shows what could be done for people trapped in harm's way, where rivers run regulated and floodplains are nonexistent.

You can advocate for programs for conserving and restoring floodplains. Through the federal Emergency Watershed Protection easement option, lands with a history of flooding can be preserved. The Nature Conservancy's Upper Mississippi River Program is a focal point of their ambitious three-year-old Great Rivers Partnership. Top priorities include the Root River and areas tributary to the St. Croix River.

Although there are several altered floodplains, such as the Red River Valley, which no longer are havens for native plant species, many large and small floodplains still abound throughout Minnesota. Foremost is the granddaddy, the Mississippi, at several recreation sites. A site not to miss is the McCarthy Lake Wildlife Management Area at Kellogg, near one of the Society's favorite field trips, Weaver Dunes. Further upstream, and north of the Twin Cities, is the Mississippi River Islands SNA near Elk River. Then there are the lower Cannon River Turtle Preserve SNA, the

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President's column

by Scott Milburn

We are coming off another successful symposium, our fourth consecutive year focusing on a region of Minnesota. This year a great roster of speakers explored the often underappreciated Tallgrass Aspen Prairie. Over 130 people attended the all-day event. I would like to thank our speakers, including Rhett Johnson, Nancy Sather, Robert Dana, Cary Hamel, Russ Reisz, Donovan Pietruszewski, Laura Reeves, and Ross Hier. Most of them made the trek down from the Northwest, including Cary and Laura who came all the way from Manitoba. I would also like to thank the symposium committee for their time and effort. This year's committee had two new members, with Erika Rowe taking charge of much of the planning and Angela Hanson coordinating the catering. It is also important to point out how gracious the Bell Museum of Natural History has been to host us the past several years.

As keepers of our natural history, the Bell Museum serves an important role in educating the public. The Bell is the state's repository of Minnesota animal and plant life. Anyone visiting the Bell will notice the beautiful dioramas depicting the Minnesota landscape with the prominent fauna and flora. As you may already know, the Bell Museum is seeking funds for a new facility as part of the 2009 capital bonding request. This request for funds is not new. Last year's request was denied through a line-item veto. This funding request will likely face similar scrutiny from those who have opposed it in the past, with the economic decline making things that much more difficult. The purpose and mission of the Bell is in line with ours, and we have an opportunity as individuals to show our support. I encourage those who feel strongly about this to contact their local representatives, including the Governor's office.

In other news, the board has three new members replacing myself, Peter Dziuk, and Shirley Mah Kooyman. The new members are Angela

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Minnesota Native Plant Society's purpose

(Abbreviated from the bylaws)

This organization is exclusively organized and operated for educational and scientific purposes, including the following.

1. Conservation of all native plants.
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4. Encouragement of research and publications on plants native to Minnesota.
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MNNPS Board of Directors

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Introducing new MNNPS board members

Derek Anderson

Derek Anderson is one of the newer members of the Minnesota Native Plant Society. He has been a member for several years and looks forward to serving on the board.

Derek grew up in northwestern Wisconsin, where he developed an interest in the outdoors and plants. He spent a good deal of time on the St. Croix River and the numerous parks located along the river. This interest led Derek to go to the University of Wisconsin–Superior, where he obtained a degree in botany. His early work and interests focused on the forested plant communities of northern Wisconsin and Minnesota.

Derek started working with the Minnesota Department of Natural Resources in 2004. While he started with northern forests, he now primarily focuses on the prairies of southern and western Minnesota. The majority of his work within the DNR is centered on the recovery efforts of the plants listed as federally endangered or threatened (Minnesota dwarf trout lily, western prairie fringed orchid and prairie bush clover). More recently, he has started surveying the counties of south central Minnesota as a part of the Minnesota County Biological Survey.

Mike Bourdaghs

MPCA Wetland Biologist Mike Bourdaghs is another one of the new crop of recently elected board members. He has been with the MPCA since 2004, working on techniques to measure wetland quality by looking at how wetland native plant communities respond to human-caused disturbances.

Mike had his first real exposure to the state's flora during a summer internship on the Kabetogama

Peninsula and never looked back. While he has over 10 years of professional botanical experience, Mike freely admits that he has a lot to learn. That is what led him to the MNNPS just over a year ago.

Mike currently resides in Mahtomedi and spends most of his time helping his wife raise a toddler. During breaks in the action he enjoys brewing beer, playing hockey, and thinking about canoe trips to come.

Angela Hanson

The Society's new board member, Angela Hanson, has been a MNNPS member since she was cultivating her plant knowledge while studying ecology at the University of Minnesota. Since then, she interned with the DNR's Prairie Care Program (with Society member Dave Crawford), the Shakopee Mdewakanton Sioux Community's Land Department, and the Minnesota Board of Water and Soil Resources. She now works full time for the City of Burnsville's Natural Resources Department, where she is involved with programs ranging from wildlife management to water quality improvement to ecological restoration and public education.

Angela lives in South Minneapolis. Her other passions include photography, gardening, sailboat racing, and riding motorcycles. One of her motorcycles is currently having native plants painted on it.

Angela looks forward to her involvement with the board and the Society's unique blend of native plant proponents. She hopes to attract, inspire, and compel new and younger audiences to sustain or even expand the Society's concern and enthusiasm for native plants and their habitats.

David Johnson is new lifetime honorary member

by Ron Huber

At the April 2 meeting, David Johnson was awarded an Honorary Life Membership for his many years of dedicated service to our Society.

David was born in West Virginia but has lived in numerous places around the country. After completing his computer science degree at the University of Wisconsin-Madison, he and his wife, Susan, moved to Minnesota. David recalls collecting seeds as a youngster. Later, he taught himself how to grow tropical orchids and native plants from seed. He served as treasurer and membership secretary for the Orchid Society of Minnesota.

David discovered the MNNPS when he saw the display board. He and Susan joined in 1998, and David volunteered to keep membership records. He also became treasurer in 1999. He developed several complex computer programs to handle the membership data. Recently, David made some long-awaited changes, modernizing and streamlining the database. He then turned those duties over to others, but he continues to volunteer his computer programming expertise on an "as needed" basis.

Floodplains

Continued from page 1

Chamberlain Woods SNA on the Minnesota River, and numerous other fascinating examples of floodplain natural communities throughout the designated Wild and Scenic Rivers.

Visit a floodplain, appreciate the native plants and their complex natural communities, and notice the associated animals. Imagine the possibilities for reclaiming landscapes and watersheds complicit in devastating human disasters, and then do something about it.

Northfield residents organize, create natural city park

by *Arlene Kjar, MNNPS member*

I first became involved with Northfield's Lashbrook Park in 1988, when I joined a citizen group called People for Parks. The group was intent on saving an 11-acre cornfield from being developed into high-rise apartments. The land had previously been designated as parkland, but developers had their eyes on this prime piece of land tucked in next to St. Olaf College.

It took four years of meetings with the city, many fundraisers, donations and a grant before the park became Lashbrook Park in 1992. This was made possible with the donation of \$25,000 from St. Olaf College, and equal amounts from People for Parks and the City of Northfield. Working with the Park Board, a grant of \$86,000 was obtained with the efforts of Kathiann and Wesley Brown of People for Parks. The grant funds came from the State of Minnesota, funded by the United States Department of Interior.

The oak savanna portion of the park was planted by Prairie Restorations in 1996. About nine acres are prairie; the other two acres are part of the wooded watershed area next to the prairie. The park was named after the Alfred Lashbrook family that once farmed the land and became world-famous for their Holstein cattle. The name reflects the Northfield motto, "Cows, Colleges, and Contentment."

Obtaining the park was just the beginning of a continuing battle to preserve it as a restored oak savanna and native wetland woods. Citizen groups came together many times to prevent tennis courts, an archery range, and landscaping from encroaching on the natural park.

Prairie Partners is a new citizen-led group I have joined. Its mission is to help promote, maintain, and preserve all prairie ecosystems in

Northfield and the surrounding area. Prairie Partners consists not only of residents of the Northfield area, but many college students.

Education is an important part of our group. Members of Prairie Partners have volunteered to teach classes, such as Drawing in the Prairie, and flower walks that are led in the prairie and woods. Two grants are pending that would provide snowshoes for youth to be used in the park in the winter. A brochure, produced by Prairie Partners, is being distributed to promote awareness of the park. Members attend the city park board meetings and communicate with city staff.

Taking care of an 11-acre natural park is a never-ending task. A volunteer crew pulls Canada thistles and takes out buckthorn, reed canary grass and other exotic invasive plants. Prairie Partners has drawn upon the specialists at Carleton and St. Olaf and naturalists from the state parks for advice. The residents of Northfield think it is great to have a city park that is dedicated to preserving the native habitat of Northfield, and they take pride in helping to care for it.

Shirley Mah Kooyman receives educators award

Shirley Mah Kooyman, MNNPS vice president, received the Bruce Beresford Horticulture Educators Award from the Minnesota State Horticultural Society on Feb. 7. The award is given to honor a person who has been an educator in the gardening world for 15 years or more. Shirley has been at the Arboretum for 24-1/2 years and has been teaching for just as long. She was nominated for the award by the Hennepin County Master Gardener Program, where she has been a member since 1984.

mnnps.org has a new face

by *Elizabeth Heck*

The Minnesota Native Plant Society's website has a new face. Check it out at www.mnnps.org. The site is intended to introduce the Society, encourage membership, provide an informational resource for existing membership and be an educational resource. Prospective MNNPS members will find informative details about the Society in the links at the top of the page, while current members are kept up-to-date through the links on the left.

Board member Elizabeth Heck designed and constructed the site, while other board members contributed greatly to the concept and content. Additional contributions to MNNPS online communications include an update to the Society blog being undertaken by member Katy Chayka. This is the place to post the latest in plant-related happenings. Also look forward to our new Facebook being set up by board members Michael Bourdaghs and Angela Hanson.

Thanks to all those who have volunteered their time to make the Society's online communications available to a diverse variety of plant-loving professionals and enthusiasts.

President's column

Continued from page 1

Hanson, Derek Anderson, and Michael Bourdaghs. I am very pleased to have them serve the Society in this capacity. Each will bring a unique perspective and a new dimension to the board. Also new is the revamped website. (See article above.) One of the web components will be a revised blog. We have had a blog, but we want to make it a more useful tool. We hope folks will contribute to the blog and that it will be beneficial to our members. In closing, we hope everyone will enjoy the new growing season.

MNNPS welcomes new members

The Society gives a warm welcome to 27 new members who joined in the first quarter of 2009. They are as follows.

Norman Aaseng, Minneapolis
Chel Anderson, Grand Marais
Sarette Arsenault, St. Peter
Karl Bischoff, Welch
Kevin Cavanaugh, St. Paul
Kate Drewry, White Bear Lake
Karen Eckman, Shoreview
Linda Falch, Richfield
Pamela Freeman, Anoka
Nick Grebe, Minneapolis
Dale T. Higgs, Apple Valley
Ric Jasken, Ogema
Karen Jensen, Stillwater
Tara Kline, West St. Paul
Matt Lasch, Prior Lake
Amy Linnerooth, Mankato
Sharon Meister, Corcoran
Dean and Natalee Oknich, Lindstrom
Stacey Olszewski, Minneapolis
Trudi Poquette, Minneapolis
Phyllis Root, Minneapolis
Jacob and Anne Rouland, Blaine
Judith Sims, St. Paul
Phil and Pat Splett, Stanchfield
Karen Stiles, Minnetonka
Natalie White, Minneapolis
Terry Yearwood, St. Paul

How to join MNNPS

There are three ways to join the Society. Information is available on the website (www.mnnps.org), or you may join at any monthly meeting. To join by mail, send your name, address, contact information, membership class, and a check to:

Minnesota Native Plant Society
P.O. Box 20401
Bloomington, MN 55420

Dues are:

\$15 - Individual
\$15 - Family
\$ 8 - Student
\$ 8 - Senior
\$20 - Institution
\$25 - Donor

Community involvement is key to Wild River Park restorations

by Dave Crawford, park naturalist, Wild River State Park. This is a summary of his Feb. 5, 2009 talk.

Prairie Care is a volunteer-based project to reconstruct prairie and oak savanna, maintain existing remnants, and compile data on phenology and locations of native prairie and savanna species.

The project dates to the 1980s. The name "Prairie Care" came about in 2000 for an adopt-a-species approach to getting volunteers to help with early-seeding species.

Wild River State Park lies on the St. Croix River upstream of Taylors Falls, Minn. It was established to preserve river shoreline and to preserve and restore presettlement plant communities. Most of the park is wooded and is rated high to outstanding in biodiversity significance.

An area of about two square miles, which had been altered from presettlement oak savanna by agricultural activity, is in need of restoration. Prescribed burns, invasive species control, and collecting and sowing of local genotype seed from native species are proving effective in accomplishing restoration.

Seed collection and sowing are now done mostly by volunteers and visiting school classes. Resource management goals go hand in hand with educational goals, reaching beyond park boundaries as more visitors become aware of native plant communities and take part in stewardship activities.

Up to 1,000 visitors are involved each year, contributing 1 to 1.5 full-time employee equivalents in total volunteer hours. Estimated retail

value of seed collected and sown has risen from \$400 per year in early efforts to more than \$40,000 a year. Species diversity of collected seed has risen from 20 species to over 200. Henslow's sparrows and a rare jumping spider, *Pelegrina arizonensis*, are among the wildlife species known to have benefited from restoration efforts.

The largest part of the increase in species diversity is credited to volunteer Species Stewards, who monitor and report locations and phenology of one or more early ripening, uncommon, or challenging species. Stewards collect seed from their species when it is ripe. This seed may be combined with other species for mass sowing, may be carefully sown in promising locations, or may be used to grow plugs which are planted to establish new populations for further seed collection.

Training materials make it possible for even inexperienced volunteers to be confident of accomplishing what is needed for their species. Data reported by stewards are used to improve training materials for future volunteers. More stewards are needed, as many species are not currently being closely monitored. Stewards are also being sought for the task of making manageable-sized portions of the park buckthorn-free.

Correction

There is an error in a chart accompanying the article, "Inventory shows the extent of non-native invasive plants in Minnesota forests," that was in the Winter 2009 issue. European privet should not have been listed as a non-native invasive species found in the plots.

Summer field trips set

by Ken Arndt

We have a great line-up of field trips in 2009. In March we went to the University of Minnesota Herbarium. Outdoor field trips begin in April.

All field trips are open to MNNPS members at no cost. Register for trips at one of our general meetings, where you can sign up in person, or go to our website (www.mnnps.org) and follow the link to the field trip page, where you can e-mail me.

Eloise Butler Wildflower Garden and Bird Sanctuary

Saturday, April 25, 9 to 11 a.m., and 11:30 a.m. to 1:30 p.m.

Led by Scott Milburn, MNNPS president, board member and Midwest Natural Resources botanist/ecologist, and Elizabeth Heck, MNNPS board member and Eloise Butler Wildflower Garden naturalist.

Stroll through the oldest wildflower garden in the country. This 102-year-old garden is home to over 500 species of plants, all within 14 acres. We will visit woodland and wetland areas and see many spring ephemerals. Due to the narrow trails in the garden, we will be limited to 20 MNNPS members for each time slot. The first is full. The second will be from 11:30 a.m. - 1:30 p.m..

Hastings Sand Coulee Scientific and Natural Area

Tuesday, May 5, 6 to 8 p.m.

Led by Karen Schik, ecologist and project manager for Friends of the Mississippi River; Ellen Fuge, SNA Program staff; and Tom Lewanski, conservation director for Friends of the Mississippi River.

This will be a joint field trip with Friends of the Mississippi River and will be limited to 15 MNNPS members. Currently this field trip is full, but we are taking names for a waiting list.

This will be an evening hike into one of the DNR's newest Scientific

and Natural Areas. Hastings Sand Coulee is a dry sand prairie of about 80 acres located just south of Hastings. It is the largest sand gravel prairie left in Dakota County and is home to rare plants, including James' polanisia (endangered) and sea-beach needle grass.

This will be, in part, a hands-and-knees adventure, as some of the earliest spring prairie flowers are quite tiny. But there will be some splash too, with the bird's foot violet and other early prairie wildflowers.

Mdewakanton Sioux Property and Spring Lake Regional Park

Saturday, May 16, 9 a.m. to noon.

Led by Victoria Rauna, environmental assessment specialist for the Shakopee Mdewakanton Sioux Community.

View several different native plant communities in Scott County. Participants will hike on Shakopee Mdewakanton Sioux tribal land and in parts of Spring Lake Regional Park to view maple-basswood forests, created prairie, rich fen with stunted tamaracks, shrublands and other wetland plant communities.

Victoria Rauna has worked with the Shakopee Mdewakanton Sioux Community for three years, surveying the flora on the reservation and working on a program to restore native prairie. She will tell us about her work and management plans being implemented on the tribal lands in Scott County.

Orchid hunting up north

Grand Rapids/Hill City Area

Saturday, June 27, 10 a.m. to 4 p.m.

Led by Dr. John Almendinger, DNR forest ecologist; and Scott Milburn, MNNPS president and Midwest Natural Resources botanist/ecologist.

John and Scott led this trip two years ago, and many members have asked for a repeat trip. Spend the better part of a day, hiking through a

rich cedar swamp and black spruce bog in search of the unusual and the beautiful.

Participants will learn about the local geology and ecology of this section of Minnesota, as well as get an understanding of how bogs are formed. A number of unique native plants will be encountered along the way, including over a dozen different native orchids. Don't miss this chance — there are only a few spots left.

Aspen Parkland region

July 11 weekend

Led by Nancy Sather, DNR botanist/plant ecologist.

Set aside the weekend of July 11 for an in-the-field follow-up of this year's symposium topic, the Aspen Parkland region of northwestern Minnesota. Details for this trip are being planned now. Highlights will include surveying for the federally threatened western prairie fringed orchid, *Plantanthera praeclara*, and a close look at the many different plant communities of this region of the state.

Weaver Bottoms

August

Led by Steve Eggers, senior ecologist for the St. Paul District Corps of Engineers.

In August, MNNPS members will return to Weaver Bottoms in Winona County for a canoeing field trip. American lotus and other aquatic plants will be in bloom, wild rice stands will grace the river, and a diverse assemblage of emergent, floating and submergent aquatic vegetation will be experienced throughout the day.

For more information ...

Stay tuned to our website for additional details of existing trips, as well as more trips being planned for late summer and fall. If you would like to receive periodic field trip update e-mails, just contact me at karndt@ccesinc.com and ask to be put on the list. I look forward to seeing many of you this summer.

Plant Lore

by Thor Kommedahl

What is Dutchman's breeches?

Dutchman's breeches is a native, perennial, early spring flower named *Dicentra cucullaria* in the fumitory family. It is a close relative of bleeding heart.

What do its names mean?

It is called Dutchman's breeches because its blooms resemble white breeches (pantaloon). *Dicentra* comes from a Greek word meaning twice-spurred, referring to the two-spurred flowers. *Cucullaria* means hood-like or hooded, descriptive of the flowers.

Where does it grow?

Dutchman's breeches thrives in rich woods in most of the deciduous-wooded areas of the state.

What do the plants look like?

All of the leaves and flower stalks are basal and grow from short, scaly rhizomes. Leaves are three-parted with finely divided leaflets. The five- to nine-inch long stalks (scapes) end in white flowers arranged in a raceme. When spring is over (April - May), the foliage turns yellow, and the plant is not visible in summer or fall.



Dutchman's breeches plant, Dicentra cucullaria, photo by Shirley Mah Kooyman.



Dutchman's breeches flowers, Dicentra cucullaria, photo by Peter Dziuk.

What is the relationship to ants?

Seeds of Dutchman's breeches are spread by ants. A fleshy structure called an *elaiosome* is attached to a seed and attracts ants. Ants carry the seeds to their nests, where ants feed the elaiosomes to their larvae and then put seeds in their waste disposal area. Thus seeds are protected until they germinate in the rich substrate of ant nest debris — a mutual benefit.

Are plants edible, medicinal, or poisonous?

They are not edible. The species contains several alkaloids that can affect the brain and heart. Native Americans and colonial practitioners regarded this plant as useful for treatment of syphilis, skin conditions, and as a blood purifier. In some people, it causes dermatitis. Plants are also reported toxic to grazing animals.

What does this plant have to do with courtship?

Stories are told that Menomini Indian suitors used this plant as a love charm. A young man throws

flowers at an Indian maiden, or chews on roots and projects his breath toward a potential mate as he encircles her, hoping she will follow the scent and him.

Annual Plant Sale is June 4

by Ken Arndt

This year's native plant sale, which raises money for the Society, will be held at the June 4 general meeting. We encourage members to divide or propagate their own native plants and donate them to the sale.

We will again hold the sale on the patio outside of Dakota Lodge. We need all plants by 6 p.m., so our volunteers will have time to get the sales area set up. The sale will take place after our speaker's presentation. Members and non-members may participate.

Bring only native plants from the region (Minnesota/western Wisconsin). Do not bring cultivars (horticultural selection) of native plants (e.g. "Goldstrum" black-eyed Susan or "Gateway" Joe-Pye-weed).

Plants should be from your own property, or other private property (with that owner's permission), and not from public property. The plants should be in typical nursery containers with adequate water and soil. Label them with both common and scientific names. Pricing will be done by volunteers at the sale. We will have plant guides at the sale to help with correct labeling.

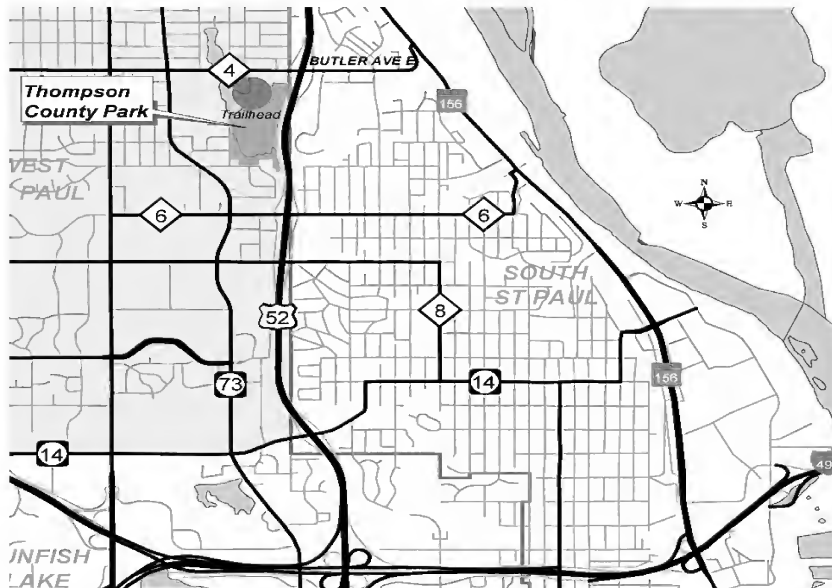
Try to dig your plants at least two to four weeks before the sale, especially if you are dividing your plants. The plants will then have time to get through transplant shock.

A few volunteers are needed to help with setting up and cleaning up the sales area, along with assisting members with their plants. To volunteer, contact Ken Arndt at karndt@ccesinc.com

Minnesota Native Plant Society
P.O. Box 20401
Bloomington, MN 55420

Spring 2009

Thompson County Park:
360 Butler Ave East, West St. Paul, MN 55118



Directions:

Take MN Hwy. 52 to the Butler Ave. E. exit in West St. Paul.
Go west on Butler 0.2 mile to Stassen Lane.
Go south on Stassen Lane to Thompson County Park.



Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 28 Number 3

Summer 2009

Monthly meetings

Thompson Park Center/Dakota
Lodge
Thompson County Park
360 Butler Ave. E.,
West St. Paul, MN 55118
651-552-7559 (kitchen)

Programs

The Minnesota Native Plant Society meets the first Thursday in October, November, December, February, March, April, May, and June. Check at www.mnnps.org for more program information.

6 p.m. — Social period

7 – 9 p.m. — Program, Society business

Oct. 1: “Forest Warming — an Ecotone in Danger” by Rebecca Montgomery, University of Minnesota Department of Forestry Resources. **Plant-of-the-Month:** *Quercus macrocarpa*, bur oak.

Nov. 5: “Decorative Tree Harvesting from Minnesota’s Spruce Bogs,” by Norm Aaseng, Minnesota County Biological Survey plant ecologist. **Seed exchange.**

Dec. 3: “Salvage Logging in St. Croix State Park: Restoring a Rare Community,” by Gretchen Heaser, St. Croix State Park resource specialist.

Additional program information will be on the Society’s website.

MNNPS website

For current information about Society field trips, meetings and other events, check the website: www.mnnps.org

Emerald ash borer is found in St. Paul

by Gerry Drewry

The deadly emerald ash borer has arrived, as anticipated, in Minnesota. The infestation was discovered in the South St. Anthony Park section of St. Paul on May 13. The borer could kill all varieties of ash trees in Minnesota. It has already killed 30 million ash trees since it was discovered in Detroit in the early 1990s.

The borer probably came to this country from China in the wood of crates. It has now been found in 13 states and two Canadian provinces. The tiny eggs are laid in bark cracks. The creamy white larvae live under the bark for one or two years; the adult emerald-green beetles emerge in mid-June. Symptoms may take several years to show. They include die-back of the canopy, split bark that reveals serpentine tunnels made by the larvae, and epicormic shoots growing from the trunk of the tree. Eventually, the infected trees die.

At this time there is no way to stop the borers, but their spread can be contained. To do this, ash wood and trimmings from both Hennepin and Ramsey counties are quarantined and cannot be taken out of those counties. Ash wood is also quarantined in a portion of Houston County, which is 15 miles from an infestation in Victory, Wis.

Individual trees may be given a chemical treatment in mid-autumn or in spring, before the adults emerge. However, the annual cost is typically \$50 to \$200 per tree. Experts recommend removing small infected trees and replanting with another species. The Department of Agriculture is using purple sticky traps to monitor the beetles. Their natural predators in Asia are three forms of parasitic wasps, which are being studied by the U.S. Department of Agriculture’s Agricultural Research Service

Information is available on the Internet. Go to the Minnesota Department of Agriculture website at www.mda.state.mn.us or call its Arrest the Pest Hotline at 651-201-6684 or 888-545-6684. For detailed information on treatment options, go to the University of Minnesota Extension website at extension.umn.edu/issues/eab/

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President's column

by Scott Milburn

The Society wrapped up another great year of presentations in June with Nancy Sather's talk on the Western Prairie Fringed Orchid. This was followed by several field trips in Northern Minnesota, where members had the opportunity to explore a cedar swamp near Hill City and trek to the Aspen Parklands.

Planning has already begun as we approach the upcoming year with our first set of talks scheduled. The basic themes for the year will be similar to recent years, with the emphasis being on ecology, conservation, and restoration. One topic I hope we can explore in our second half is the emergence of the emerald ash borer in Minnesota. Questions we need to ponder regarding the subject include what will be the true impacts and what will happen to forest communities whose major components are black and green ash.

Regarding the board, we will have our summer board meeting in early August, when we will elect officers and discuss our path for the next year.

I would like to announce that we need to bring a proposed bylaw change to the members' attention. We had mistakenly added another membership category of Lifetime membership. This actually requires approval by the general membership, and not through action of the board alone. The board is hereby proposing to add the category of Lifetime membership to our list of membership categories. The cost for a Lifetime membership will be set at twenty times the cost of an individual membership, or \$300 at our current membership price. This will be brought to the members this upcoming year. The date will depend on attendance and whether we have a quorum at that point.

I hope and encourage folks to enjoy the summer months, and I look forward to seeing you in October.

Minnesota Native Plant Society's purpose

(Abbreviated from the bylaws)

This organization is exclusively organized and operated for educational and scientific purposes, including the following.

1. Conservation of all native plants.
2. Continuing education of all members in the plant sciences.
3. Education of the public regarding environmental protection of plant life.
4. Encouragement of research and publications on plants native to Minnesota.
5. Study of legislation on Minnesota flora, vegetation, ecosystems.
6. Preservation of native plants, plant communities, and scientific and natural areas.
7. Cooperation in programs concerned with the ecology of natural resources and scenic features.
8. Fellowship with all persons interested in native plants through meetings, lectures, workshops, and field trips.

MNNPS Board of Directors

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scott.milburn@mnnps.org

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Elizabeth Heck, board member, webmaster, elizabeth.heck@mnnps.org

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Book review

'Wildflowers of the Boundary Waters'

Book by Betty Vos Hemstad, published by the Minnesota Historical Society Press, St. Paul, 2009; 272 pages, 7- by 10-inch format, softcover, \$22.95.

Review by Ron Huber

Here is another welcome and very useful regional guide, arranged by season and then by color. The author is a summer resident of the Gunflint Trail and a longtime nature photographer.

She offers 620 color photographs of some 120 regional flowers, showing each in its general habitat and then in close-up throughout its lifecycle, from bud to flower to seed pod. She has chosen to show some of the common species that might be encountered while hiking through the woods, so a few non-native taxa (usually, but not always, noted as such) are also included.

Each species is accompanied by a paragraph or two describing such things as fragrance, uniqueness of habitat, uses by Native Americans, translation of Latin names, superstitions regarding the plant, and assorted other interesting factoids.

Some "fussier" guides are careful not to include flower photos that have distractions such as beetles or butterflies, but not so this book. It is delightful to see the occasional nectar-seeking insects on these flowers, imparting therein a more natural, rather than sterile, image.

The book was printed in China. The price is reasonably low, given the number and quality of the photographs.

Sioux Community is making a floral atlas

by Victoria Ranua, environmental assessment specialist, Shakopee Mdewakanton Sioux Community. This is a summary of her talk at the May 7, 2009, MNNPS meeting.

The Shakopee Mdewakanton Sioux Community (SMSC) is located at an agriculture/urban interface in Scott County. In 2007, the SMSC began a floral atlas of its 3,000 acres of land to complement its faunal atlas.

An atlas project documents particular species occurring at a specific period in time. For plants, they are strictly presence or absence, and do not record species abundance or health. The data can be used to compare with historical records and as a baseline for future atlas projects at the same location.

The SMSC Land and Natural Resource staff used the quarter-quarter section (40 acres) of the Public Land Survey as a sampling unit. There are approximately 90 sampling units. Staff members record all plants identifiable to the species level within each 40-acre unit. Some units, like farm fields, have few species and do not take long to survey. Other units with woodland, grassland, and wetland take longer to survey. Each unit is sampled twice, at different times during the growing season. Survey work will be complete in 2009.

So far, the survey has resulted in 60 potential new Scott County records and two new Minnesota records. The two new state records are the buttercup pennywort (*Hydrocotyle ranunculoides*) and tall wheatgrass (*Thinopyrum ponticum*). The nearest state with the buttercup pennywort is Illinois, which lists it as endangered. It is not native to Minnesota. It is found in three wetlands on SMSC lands,

and potentially others on non-SMSC lands. Its origin here is unknown. Tall wheatgrass is an Eurasian pasture grass that has spread across the Great Plains. It presumably came here in a seed mix used on a construction project.

In the absence of a floristic quality index for all of Minnesota's plants, the atlas data can serve as a proxy for habitat quality. A farm field might have 15 species, but 90 percent are non-native. One grassland might have 55 species, but 60 percent are non-native, while another grassland might have 40 species, but only 15 percent are non-native. This can help land use planners or natural resource managers determine which areas are priorities.

The SMSC complements its atlas work with the Minnesota Land Cover Classification System, pre-European settlement vegetation data, and wetland and forest inventories. Once the floral atlas is complete, the SMSC will likely create an electronic publication of all species encountered.

Symposium was successful

The Society's 2009 symposium on the Aspen Parklands earned a net profit of \$1,241, treasurers Ron and Cathy Huber reported. About 135 people attended.

Income included admissions, vendor fees, and the silent auction, in that order. Expenses included the catered lunch, speakers' honoraria (meals, lodging and mileage — some came from Canada), and the printing/mailing of the brochures, in that order. The Bell Museum of Natural History graciously did not charge for the use of its spaces.

A natural history of the Beltrami Island Area

by Scott C. Zager, plant ecologist, Wildlands Ecological Services. This is a summary of his talk at the March 5, 2009 MNNPS, meeting.

The greater Beltrami Island Area in northwest Minnesota includes LUP lands that were the subject of an ecological assessment documented in part by a natural history report. These parcels are federal lands administered by the U.S. Fish and Wildlife Service. They were purchased by the federal government from a few remaining settlers, scattered throughout the area, who were isolated and distressed by the extreme financial crisis of the 1930s.

The acronym ALUP comes from A Land Utilization Project, which authorized the federal government to purchase submarginal lands and relocate their owners to more accessible and productive lands. LUP lands are leased to the Minnesota Department of Natural Resources and managed by the Red Lake Wildlife Management Area, whose headquarters at Norris Camp was built in the 1930s to aid the resettlement program. Norris Camp is a little north of center for the Beltrami Island Area and is located 270 miles north-northwest of St. Paul. The camp is 100 miles east-northeast of Grand Forks, N.D., and about 28 miles due south of the Canadian border.

The greater Beltrami Island Area (BIA) is a geopolitical boundary artificially created for analytical purposes for the report. It is 858,811 acres (1,342 square miles) in area. It comprises mostly public land that largely encompasses the geomorphic land formations known as the Red Lake Peatlands and Beltrami Island, although no defined boundary exists.

Beltrami Island is named after the Italian explorer Giacomo Constantino Beltrami, who searched for the source of the Mississippi River in 1823. In 1897, Warren Upham described Beltrami Island in his massive tome on Glacial Lake Agassiz:

“These [elevation] data show that Lake Agassiz in its highest stage had a large island northwest of Red Lake, comprising the headwaters of numerous streams flowing outward from it to the Lake of the Woods, Rainy River, Red Lake, the Red Lake River, and the Red River of the North. This island had probably a diameter of 40 miles or more, with an area exceeding 1,000 square miles. ... [Beltrami Island] had before been supposed to be comparatively low and perhaps wholly beneath the highest level of Lake Agassiz. ...”

Beltrami Island is a knob of hard rock that arises above the surrounding peneplain — a level plain worn down from ancient mountains by countless years of erosion. The peneplain is underlain by Precambrian bedrock comprised of igneous, metamorphic and sedimentary rock of volcanic origin. The prominence of Beltrami Island is attributed to the bedrock's superior resistance to erosion.

During the ice age, the bedrock was repeatedly covered by thousands of feet of glacial ice, which deposited up to a hundred feet or more of unsorted sediments of glacial till. The enormous weight of the glaciers compressed the Earth's crust hundreds of feet, and it is still rebounding to this day. Glacial meltwater created Glacial Lake Agassiz, a vast meltwater-lake surrounding the margin of the

Wisconsin Glacier, whose surface water inundated the depressed peak of Beltrami Island. Waters of Glacial Lake Agassiz subsided when ice dams broke and flooded enormous volumes of freshwater into the Arctic and Atlantic oceans.

As Beltrami Island emerged above the surface, waves sorted the glacial till, depositing sand and gravel in a series of beach ridges or strandlines, while silts and clays were deposited within basins of inter-beach swales. Today, these beach ridges are covered by a mixed forest of coniferous and deciduous trees, and the swales support a portion of the largest peatland complex in the contiguous United States.

The Beltrami Island Area is characterized by broad areas of conifer forests, mixed hardwood-conifer upland forests, and swamps with extensive peatlands and lakes. BIA is part of the Agassiz Lowlands Ecological Subsection, which consists of a flat, poorly drained, glacial lake plain with beach ridges and peatlands. The peatlands are a mixture of acidic fens, bogs, black spruce forests; and circumneutral-to-alkaline (mineral-rich) fens and swamps dominated by tamarack, white cedar and sometimes, black spruce.

At the time of the original public land survey, the upland beach ridges were dominated by jack pine with lesser amounts red pine, paper birch and very rarely white pine. Aspen probably occupied lower slopes bordering swamps and other moist areas, which were scattered about in small basins. Because fire was a commonly recorded occurrence, and because jack pine requires periodic fire for regeneration, pine trees formed open-canopied woodlands or pine savannas with an open understory (i.e., brush thickets were scarce). The pine openings were small meadows scattered throughout the barrens.

By the late 1800s and early

1900s, logging and farming caused a precipitous drop in pine forests. Several miles of drainage ditches were dug in the peatland area between 1900 and 1918 in preparation for agriculture. However, despite the failure of this homestead project, these ditches remain today.

Historic climate patterns reveal important considerations for the management of peatlands in the Beltrami Island Area. Peat did not develop in northwestern Minnesota until about 5,000 years after Glacial Lake Agassiz receded from Minnesota.

Deglaciation was immediately followed by a gradual change from a cold-dry climate to a warm-dry climate maximum during the Late-Middle Holocene period (about 7,000 to 5,000 years ago). This warming period is known as the Hypsithermal. During this time, the moisture balance between precipitation and the moisture loss due to evapotranspiration was negative, causing water tables and lake levels to drop across the Upper Midwest. This dry climate hindered the development of the Red Lake Peatlands until about 3,500 years ago.

It is predicted that in the next 100 years the climate will increase in temperature in a magnitude equal to or possibly greater than historical levels. The peatlands within northwest Minnesota are on the edge of a favorable moisture balance for peat development, where evapotranspiration losses just equal precipitation.

This is evident by the prevalence of fire-scarred peat, which is common along the edge of the prairie-forest boundary. Peatlands at this boundary are extremely vulnerable to atmospheric changes that would tip the balance to a warmer-drier climate. Historically, this has been shown to lower local water tables and thereby increase the propensity of peat fires.

The margins of bogs are sensitive to the adjustment in height of the water table. These changes are best evident in areas altered by drainage ditches. Blocking the drainage ditches within BIA will impede waters from leaving the peatland and promote high water tables, thereby lowering the likelihood of peat fires.

Roseau 'Wildlife Drive' is open on weekends

The 29-mile "Wildlife Drive" that provides vehicle access to the Roseau River Wildlife Management Area (WMA) opened July 20-26 and will be open on weekends through Aug. 23.

The drive traverses wetland, woodland, brushland, and farmland habitats, allowing visitors ample opportunity for wildlife viewing. Motorists are urged to use caution because of narrow roads, soft shoulders, deep ditches, and two-way traffic. The speed limit on all WMA roads is 20 mph.

The Minnesota Department of Natural Resources may close the drive if road conditions deteriorate due to poor weather. Only motor vehicles licensed for use on public highways are legal to operate on the WMA wildlife drive. The recommended entry point is the main dike road, one and three-quarter miles south of the WMA headquarters on Roseau County Road 3.

The Roseau River WMA is located 20 miles northwest of Roseau. For more information, contact or stop by the Roseau River WMA office: phone 218-463-1130; 27952 400th St., Roseau, MN 56751.

Birds, butterflies need native plants

Summarized by Thor Kommedahl

Managed home landscapes in which non-native ornamental plants are favored over native plants dominate home properties in the United States. The question arises as to how this affects bird and butterfly populations on home grounds. This question was investigated by Karin Burghardt and associates at the University of Delaware.

They reported that properties with native plants supported many more caterpillars and caterpillar species and greater abundance of birds with greater diversity and more species, and more breeding pairs, than properties landscaped with more conventional plants and shrubs. Moreover, when bird species that were of special conservation concern were considered, they were eight times more abundant and more diverse on the native-plant properties.

Note: This summary is based on an abstract in Conservation Biology 2009 of research by Karin T. Burghardt, Douglas W. Tallamy, and W. Gregory Shriver, Department of Entomology and Wildlife Ecology, University of Delaware, Newark, Del. An extensive discussion of their research is found in Tallamy's book, Bringing Nature Home.

Tallamy's nature book is updated, expanded

Douglas Tallamy's book, *Bringing Nature Home*, is now available in an expanded, paperback version. The publisher is Timber Press, www.timberpress.com

Plant sale results

Cathy Huber reports that in spite of bad weather, the Society received \$416 at the June plant sale. Thanks to all those who brought plants and to those who helped arrange the plants.

Between the Mississippi and the Missouri, 1838-1839

A new look at the botany of Charles Geyer

by Charles Umbanhowar, Jr. This is a summary of his talk at the April 2 meeting.

"He will triumph who understands how to conciliate and combine with the greatest skill the benefits of the past with the demands of the future."
— J.N. Nicollet

The 1836-1839 Nicollet expeditions in Minnesota and the Dakotas represent the earliest detailed description of the landscape, plants, and people of the "Northwest Territories" located between the Mississippi and Missouri rivers. The field notes and observations of Nicollet were the basis for his 1843 map and report on the region, and for the time they were unrivalled in their detail and accuracy. Often overlooked are the contributions of Charles A. Geyer, who accompanied Nicollet in 1838-1839 as the expedition botanist.

Over the past two years, our team of three faculty and 12 students at St. Olaf College has been working to illustrate the expeditions of Nicollet. We have been supported in these efforts by a generous grant from NCUR/Lancy. We are working to better understand changes in the landscape since the time of Nicollet, combining modern landscape photography with lake water data, sediment cores from five lakes, and images of the original journal. The current product of our work can be found at www.stolaf.edu/academics/nicollet/index.html

As part of this project, we have been "rediscovering" the botanical work of Charles A. Geyer. His work has often been overlooked, perhaps because his journal notes are interwoven so seamlessly in the

seminal work about the Nicollet expeditions of 1838-1839 by Martha and Edmund Bray. Mike Heinz did highlight Geyer's work in the Spring 1989 *Minnesota Plant Press*.

Geyer's botanical notebook of 1838 contains a wealth of information on the vegetation of the region as well as the identity and distribution of many individual plants. For example, for Tuesday, Oct. 2, 1838, he records the banks of Spirit Lake, Iowa, as being "well timbered but only interrupted" and then proceeds to fill a page with a list of the plants found on the shores of the lake. Only one-third of this journal entry makes it into the Brays' book, but it and other such listings could form the basis for a more detailed look at the 1830s flora of region. Sadly, if it existed, any 1839 botanical journal that Geyer kept is missing.

Geyer collected and pressed many botanical specimens. Most of these were collected in 1839, because hundreds of the specimens he collected in 1838 were sadly lost in transit from Fort Snelling to St. Louis. John Torrey catalogued the Geyer collection in the 1843 Report to illustrate Nicollet's map and lists 430 plant specimens. We have now located over 300 of these specimens. The majority we have found were either at the National Herbarium or the Missouri Botanical Garden Herbarium, but others were found at the Philadelphia Academy of Sciences, New York Botanical Garden, Harvard Herbarium, and even one at the University of Minnesota. The herbaria have all graciously either arranged to image these specimens or have allowed us to image them, and they will be

posted eventually at the St. Olaf Nicollet website. These specimens provide an invaluable way to check Geyer's identifications.

Geyer summarized his work in a never published "Report of an agricultural botanical survey as an addition to a general report of a geographical survey..." This report is housed at the Smithsonian Archives. The report summarizes the 1838-1839 expeditions and provides long lists of plants, both common and rare, associated with different geographic regions and soils and should provide a real answer to the question of what plants should/could be present in different types of remnants and restorations. Work to transcribe and eventually publish or post this report on the Internet is on-going.



John Almendinger, DNR forest ecologist, talks to participants on a June 27 field trip to a cedar swamp in the Hill City area. Photo by Scott Milburn.

Plant Lore

by Thor Kommedahl

What is fringed gentian?

It is *Gentianopsis crinita*, formerly known as *Gentiana crinita*, in the gentian family, native to moist prairies in Minnesota. The lesser fringed gentian is *G. procera*.

How did it get its names?

Gentianopsis means “like a gentian,” and gentian was named after Gentius, King of Illyria (second century B.C.) who, according to Pliny, was supposed to have discovered medicinal uses for the yellow gentian (*G. lutea*). *Crinita* means “with long hairs,” referring to the long fringe on petals. *Procera* means tall, which is contradictory because *G. procera* is the shorter of the two species.

Where does it grow?

It grows in moist meadows in the state from southeast to northwest, but less so in northeast and southwest Minnesota. It often heralds the end of the wildflower season. It is either threatened or endangered in many states.

What does it look like?

It is a biennial and flowers in the second season; sometimes it behaves as an annual. The plant forms a small, basal rosette the first year. Plants are 12-32 inches tall. Flowers open and close daily, and are open when it's sunny and closed when it's cloudy. It has four petals, four sepals, and the blue petals flare out with fringed lobes from a corolla tube. The fruit is a capsule containing many tiny seeds that are wind-blown. It flowers in late summer. The opposite leaves are egg- to willow leaf-shaped.

Is it edible, poisonous, or medicinal?

None of the above. Some gentians have medicinal properties (tonic) but not this species.

Is there folklore for fringed gentian?

Yes, poems have been written

about the fringed gentian by William Cullen Bryant, Emily Dickinson, Edgar Allan Poe, Helen Hunt Jackson, and Sarah Whitman.

Is it a garden plant?

It needs sunny locations in moist habitats and to be seeded annually.

To the Fringed Gentian

by William Cullen Bryant (1794-1878)

Thou blossom bright with
autumn dew,
And coloured with the heaven's
own blue,
That openest when the quiet
light
Succeeds the keen and frosty
night.

Thou comest not when violets
lean
O'er wandering brooks and
springs unseen,
Or columbines, in purple
dressed,
Nod o'er the ground-bird's
hidden nest.

Thou waitest late and com'st
alone,
When woods are bare and birds
are flown,
And frosts and shortening days
portend
The aged year is near his end.

Then doth thy sweet and quiet
eye
Look through its fringes to the
sky,
Blue — blue — as if that sky let
fall
A flower from its cerulean wall.

I would that thus, when I shall
see
The hour of death draw near to
me,
Hope, blossoming within my
heart,
May look to heaven as I depart.



Fringed gentian, Gentianopsis crinita, photo by Scott Milburn.

MNNPS welcomes new members

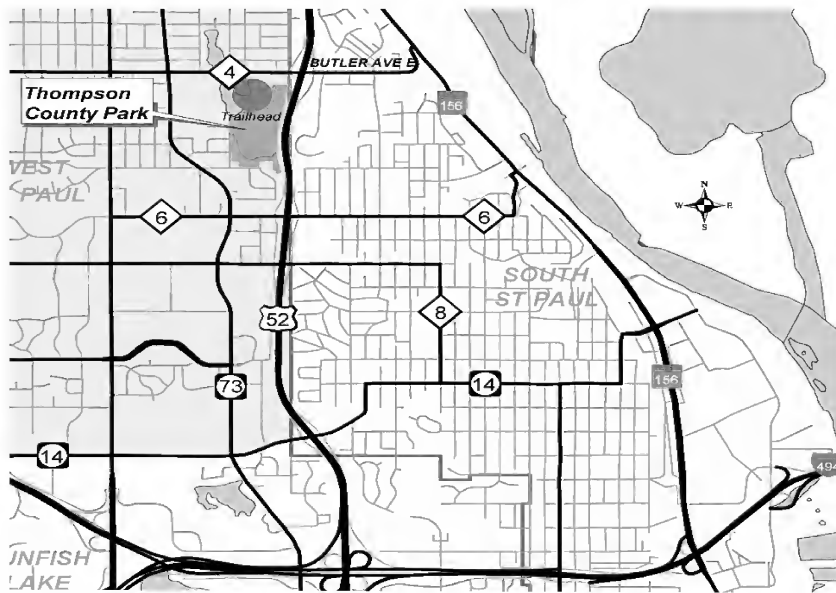
The Society gives a warm welcome to 17 new members (listed alphabetically) who joined during the second quarter of 2009.

Dale Blount, Minneapolis
Susan Damon, St. Paul
Jim Drake, Arden Hills
Katherine Grumstrup,
Minneapolis
Cary Hamel, Winnipeg,
Manitoba
Bobby Henderson, Ada
Ross Hier, Crookston
Kristina Hughes, Minneapolis
David Klett, Eden Prairie
Rachel Marty, Burnsville
Brian O'Brien, St. Peter
Donovan Pietruszewski,
Karlstad
Laura Reeves, Gardenton,
Manitoba
Russ Reisz, Karlstad
Cheryl Ryland, Plymouth
Dan and Vicki Svadarsky,
Crookston
Susan Weaver and Paul Mote,
St. Cloud

Minnesota Native Plant Society
P.O. Box 20401
Bloomington, MN 55420

Summer 2009

Thompson County Park:
360 Butler Ave East, West St. Paul, MN 55118



Directions:

Take MN Hwy. 52 to the Butler Ave. E. exit in West St. Paul.
Go west on Butler 0.2 mile to Stassen Lane.
Go south on Stassen Lane to Thompson County Park.



Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 28 Number 4

Fall 2009

Monthly meetings

Thompson Park Center/Dakota
Lodge
Thompson County Park
360 Butler Ave. E.,
West St. Paul, MN 55118

Programs

The Minnesota Native Plant Society meets the first Thursday in October, November, December, February, March, April, May, and June. Check at www.mnnps.org for more program information.

6 p.m. — Social period

7 – 9 p.m. — Program, Society business

Nov. 5: “Decorative Harvesting from Minnesota’s Spruce Bogs,” by Norm Aaseng, plant ecologist, Minnesota County Biological Survey. **Annual Seed Exchange.**

Dec. 3: “Salvage Logging in St. Croix State Park,” by Gretchen Heaser, St. Croix State Park Resources Specialist. **Plant of the Month: *Orobanche uniflora*,** one-flowered broom rape or cancer-root, by Ken Arndt, Critical Connections Ecological Services, Inc.

Feb. 4: To be announced.

Field trips being planned

Fall and winter field trips are being planned. For the latest information, go to the Society website.

MNNPS website

For current information about Society field trips, meetings and other events, check the website: www.mnnps.org

Conservation priorities, botanical workshops are among future plans

by Scott Milburn, MNNPS president

When the board recently met for our quarterly meeting, the discussion centered on committee direction, future programming events, and bylaw changes.

Over the last few years, the conservation committee has been revived under the leadership of Beth Nixon. In an effort to refine our efforts, the board decided that we need to narrow our focus. Each board member and officer was given the task of coming up with three potential conservation issues that directly involve our mission. The board will then decide on one of these issues to focus on in the upcoming years. Possible topics include biofuels, off-highway vehicle use, and sustainable forestry practices.

The board also discussed possible 2010 symposium topics, along with the concept of botanical workshops for the membership. The 2010 symposium committee will be the same committee as led this past year’s event. The botanical workshops would ideally develop into annual events with a focus on a particular suite of species. It may be a year or two before we have our first botanical workshop, since we are currently at the conceptual stage. We are obviously open to suggestions and ask for membership participation.

Finally, the board is going to update both the bylaws and the operations manual. It has been five years since the last update, and it definitely is time to incorporate some changes. Board member Russ Schaffenberg will serve as the lead for this undertaking. Members will be informed about future bylaw changes in the *Plant Press*, and these proposed changes will be voted on at the general monthly meetings. As always, we look forward to the continued involvement of our members, and to hearing from you.

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Mississippi River Basin Healthy Watersheds Initiative planned

The USDA Natural Resources Conservation Service is developing a new initiative in Minnesota and 11 other states to help improve water quality and the health of related natural resources in the Mississippi River Basin.

The program will be concentrated in priority basin watersheds in Arkansas, Kentucky, Illinois, Indiana, Iowa, Louisiana, Minnesota, Missouri, Ohio, Tennessee, and Wisconsin. \$320 million has been allocated for the initiative.

NRCS and its partners will work with producers in these priority watersheds to help them voluntarily implement conservation and management practices which avoid, control, and trap nutrient runoff. They will use a conservation systems approach to control soil erosion, manage surface and drainage water, improve soil quality, and provide wildlife habitat, thereby reducing the

amount of nitrogen and phosphorus reaching basin waters.

The watersheds will be selected in consultation with state technical committees, using a consistent watershed evaluation process.

MNNPS is on Facebook

by Michael Bourdaghs

The MNNPS can now be found on Facebook. This is a social networking website where users can create their own profile page, join networks of other users organized by interests, and communicate in a variety of ways.

Have an announcement, want to start a discussion, or share a great picture with other members? You can do all of these quickly and easily on Facebook.

To find the MNNPS Facebook page, go to www.facebook.com and log in. First time users will have to create a new account and personal page. Type "Minnesota Native Plant Society" in the Search box, and then click the "Become a fan" link.

Minnesota Native Plant Society's purpose

(Abbreviated from the bylaws)

This organization is exclusively organized and operated for educational and scientific purposes, including the following.

1. Conservation of all native plants.
2. Continuing education of all members in the plant sciences.
3. Education of the public regarding environmental protection of plant life.
4. Encouragement of research and publications on plants native to Minnesota.
5. Study of legislation on Minnesota flora, vegetation, ecosystems.
6. Preservation of native plants, plant communities, and scientific and natural areas.
7. Cooperation in programs concerned with the ecology of natural resources and scenic features.
8. Fellowship with all persons interested in native plants through meetings, lectures, workshops, and field trips.

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MDA releases weevils to fight spotted knapweed

The Minnesota Department of Agriculture is alerting farmers and other landowners about spotted knapweed (*Centaurea stoebe*), an invasive weed that is showing up with increasing frequency in parts of Minnesota. It is considered a threat to agriculture and the environment. Seedhead and root weevils are being used to help control it.

“Spotted knapweed has attractive pink flowers, but it is not a good neighbor,” Geir Friisoe, MDA plant protection director said. “When it becomes established in an area, it crowds out forage plants and other desirable vegetation. This can lead to loss of pasture productivity, erosion problems, and degradation of wildlife habitat.”

There are extensive infestations in the northwest part of the state, and it has been found recently in several central Minnesota counties. Spotted knapweed arrived in North America in the early 1900s as a contaminant in crop seed.

The MDA has teamed up with the Departments of Natural Resources (DNR) and Transportation (Mn/DOT) to introduce seedhead weevils at multiple sites in Chippewa County to reduce the spread and impact of knapweed in that area.

Seedhead weevils lay their eggs on knapweed flowers, and the larvae eat developing seeds. The larvae of the root weevil feed and develop in knapweed roots, weakening or killing the plants.

Small infestations can be controlled by gloved hand-weeding, followed by herbicide treatment to kill remaining seeds. Weevils may be the better option for larger sites. For additional information, go to www.mda.state.mn.us/plants/badplants/skw-origin

MNNPS helps fund native plantings for campus wetland

by Andrés F. Morantes

If you commute west of the State Fair Grounds on Como Ave., you may notice an urban green space on the north side of the road. This urban wetland is known as Sarita Wetlands, and it serves as a major component in stormwater drainage for the University of Minnesota St. Paul campus. In recent years, the campus community has promoted the restoration of this green space, and MNNPS has contributed to the efforts.

The recent efforts began in the winter of 2005 when students from the Fisheries, Wildlife, and Conservation Biology (FWCB) Club and University staff outlined a vision for having an on-campus living laboratory to complement the education of natural resource studies. To achieve an urban space with a diversity of native insects, birds, and other subjects for study, the vision outlines a need to restore the native vegetation.

The efforts continued during the spring of 2006 and 2007 with tree plantings to increase the diversity of the future canopy and removal of some of the heavy boxelder and cottonwood cover. In 2008, MNNPS President Scott Milburn guided student planning for increasing the herbaceous diversity in the wetland shorelines and surrounding woodland uplands at Sarita.

Most recently, FWCB students planted shoreline vegetation in the spring of 2009. Funding for plant material in 2009 came partly from MNNPS, which donated \$250 to the student-led project. Plantings in 2009 included wildflowers such as boneset (*Eupatorium perfoliatum*), monkey-flower (*Mimulus ringens*), and great blue lobelia (*Lobelia siphilitica*), and a variety of sedges, including bristly sedge (*Carex comosa*), fringed sedge (*Carex crinita*), and needle spike-rush (*Eleocharis acicularis*).

This project is a unique ongoing effort that is only possible through the continued cooperation and leadership of FWCB students, campus staff, professors, and outside organizations like MNNPS. While student leadership in the project changes from year to year, several campus faculty have played a major role in the project, most notably Professor Peter Jordan, a past presenter for MNNPS. To date, the university has not officially committed to sponsoring the project. Therefore, future success of this project will continue to rely on volunteers, grants, and donations.

DNR seeks volunteers for varied projects

The DNR needs assistance with collecting prairie seeds, brushing trails, bud-capping trees, surveying trail users, installing tree shelters, transcribing historical interviews, and river clean-ups throughout Minnesota.

Volunteer opportunities are posted on their website at www.dnr.state.mn.us/volunteering/index.

Individuals, families, and groups are welcome to participate. Children under the age of 16 must be under adult supervision to volunteer.

If a DNR opportunity is not listed for your area, contact your local DNR office to inquire about available volunteer positions. For the number and location of your local office, call the DNR Information Center, 1-888-646-6367.

What's in a name?

Mastering Latin nomenclature and pronunciation of botanical names

by Rebecca Dolan, Ph.D., Butler University Friesner Herbarium

Intimidated by multisyllabic Latin plant names? Understanding why Latin names are used may make them more tolerable. Here are some principles to help you deal with them effortlessly.

Formal scientific names of plants and other organisms are given in Latin so that the language is international and unchanging. I can look at a paper or book in Japanese or Russian and still distinguish scientific names. While visiting my sister in Holland, I bought a wildflower identification book written in Dutch but illustrated with very nice photographs and Latin scientific names. Thus I could learn the plants and see their relationships with our North American flora.

Common names are important and often carry historical information, such as medicinal uses of plants, but they have limitations. For example, very rare plants may not have common names. Some plants share common names, and some plants have different common names in different parts of the country. The use of scientific Latin names overcomes these problems.

Pronunciation of Latin is much easier than English. All letters are pronounced; there are no silent vowels or consonants. The main trick is knowing where to place the emphasis. Most words have the emphasis on the next-to-the-last syllable; others may have the emphasis on the syllable before that. Take comfort in knowing that even

professional botanists pronounce the same names differently. It doesn't really matter.

Here's another trick: Think about what a Latin term means. Often the term relates to some obvious feature of the plant. A botanist describing a new species must follow international rules of botanical nomenclature. The new name given the plant must be an original combination of genus and species names, but the choice of a specific epithet (or species name) is entirely up to the investigator.

The name usually reflects a physical trait of the plant, but it may indicate where the plant was first collected, the geographic area where it grows, the name of the person who first collected it, or someone who has done a lot of work with related plants.

Personal names are "Latinized," and generally the genus and species names end with matching masculine (-us) or feminine (-ia) endings. Some terms are borrowed from Greek and Latinized.

We can use these terms to examine names for some oaks. All oaks are in the genus *Quercus*. White oak is *Quercus alba*, scarlet oak is *Quercus coccinea*, and red oak is *Quercus rubra*. However, *Quercus nigra* is water oak, and black oak is *Quercus velutina*, apparently because of velvety hairs on the undersurfaces of the leaves.

Reprinted with permission from INPAWS Journal: News and Views from the Indiana Native Plant and Wildflower Society, Spring 2009.

Commonly encountered Minnesota epithets

by Shirley Mah Kooyman, MNNPS vice president and Minnesota Landscape Arboretum coordinator

angustifolia (narrow-leaved) – *Lavandula angustifolia* (English lavender)

argentea (silvery) – *Salvia argentea* (silver sage)

aurea (golden) – *Potentilla aurea* (golden-flowered potentilla)

borealis (northern) – *Linnea borealis* (twinflower)

caeruleum (deep blue) – *Polemonium caeruleum* (Jacob's ladder with blue flowers)

candidum (white) – *Lilium candidum* (lily with white flowers)

coccineus (scarlet) – *Phaseolus coccineus* (scarlet runner bean)

cernuum (nodding) – *Trillium cernuum* (nodding trillium)

esculentus (edible) – *Abelmoschus esculentus* (okra)

farinacea (mealy) – *Salvia farinacea* (mealy sage, mealy cup sage)

graveolens (aromatic) – *Pelargonium graveolens* (rose-scented geranium)

hirta (hairy) – *Rudbeckia hirta* (black-eyed Susan)

latifolia (broad-leaved) – *Typha latifolia* (cat-tail with wide leaves)

maculatum (spotted) – *Lamium maculatum* (spotted dead nettle), *Geranium maculatum* (wild geranium)

nana (dwarf) – *Betula nana* (dwarf birch)

odoratus (scented) – *Lathyrus*

odoratus (sweet pea), *Reseda odorata* (mignonette)

officinale (medicinal) – *Taraxacum officinale* (dandelion), *Calendula officinalis* (pot marigold)

pallida (yellow) – *Echinacea pallida* (yellow-flowered coneflower), *Impatiens pallida* (yellow-flowered impatiens)

palustris (growing in bog) – *Caltha palustris* (marsh marigold)

pratensis (of meadows) – *Salvia pratensis* (meadow sage), *Trifolium pratense* (red clover)

pumila (dwarf) – *Mahonia pumila* (dwarf Oregon grape)

procumbens (prostrate) – *Sanvitalia procumbens* (creeping zinnia), *Gaultheria procumbens* (creeping wintergreen)

radicans (rooting stem) – *Campsis radicans* (trumpet

creeper)

reptans (creeping) – *Polemonium reptans* (creeping Jacob's ladder)

sativa (cultivated) – *Lactuca sativa* (lettuce), *Cannabis sativa* (hemp)

scandens (climbing) – *Cobaea scandens* (cup and saucer vine)

sinensis (of China) – *Camellia sinensis* (tea), *Miscanthus sinensis* (silver grass)

suaveolens (sweetly scented) – *Mentha suaveolens* (mint)

sylvatica (of woods) – *Myosotis sylvatica* (forget-me-not)

tomentosum (hairy) – *Cerastium tomentosum* (snow-in-summer)

virgatum (wand-like) – *Panicum virgatum* (panic grass)

viridis (green) – *Salvia viridis* (salvia with green bracts)

vulgaris (common) – *Linaria vulgaris* (common toadflax)

How botanical names are created

by Shirley Mah Kooyman

Prefix: macro (large, *Aster macrophyllus*)

Suffix: florus (flowered, *Trillium grandiflorum*)

General personality: debile (weak, *Sedum debile*)

Color: argenteus (silvery, *Salvia argentea*)

Markings: maculatus (spotted, *Geranium maculatum*)

Shape: campanulatus (bell-shaped, *Agapathus campanulatus*)

Texture: laciniatus (slashed, *Rudbeckia laciniata*)

Direction: cernuus (nodding, *Trillium cernuum*)

Habitat: montanus (of mountains, *Centaurea montana*)

People: Kalmia (for Peter Kalm, a student of Linnaeus, *Kalmia latifolia*)

Places: neapolitanus (Naples, Italy, *Allium neapolitanum*)

Searching for rare plants



Lynden Gerdes, on Seahorse Lake, is documenting rare flora of the Boundary Waters Canoe Area. He was participating in the ongoing Minnesota County Biological Survey of the Border Lakes. Photo by Scott Milburn, who was also on the survey team.

DNR studying how to increase diversity of plants, insects to aid grassland birds

The DNR is conducting a research project on increasing plant diversity and insect populations to benefit grassland birds and their broods, including pheasants, prairie chickens and meadowlarks.

The project is being conducted on portions of 15 state Wildlife Management Areas and one federal Waterfowl Production Area which were originally planted with a heavy rate of grass and few if any broad-leaf plants. Prescribed burns will be conducted on each research unit. They will be interseeded with forbs. For details, go to <http://news.dnr.state.mn.us/index.php/2009/09/17>

MNNPS members tour the Aspen Parklands

by Derek Anderson

The prairie-aspen parkland is a Canadian ecoregion that extends across Manitoba, Saskatchewan, and Alberta. A small section also extends into northwestern Minnesota, adding an under-appreciated facet to the state's fabled reputation as the meeting place of major biomes. As a follow-up to the Native Plant Society's spring symposium featuring this biome, nearly 40 plant society members and local citizens attended a series of field trips on the weekend of July 11-12.

Many of the natural features of this landscape are the legacy of Glacial Lake Agassiz, which left the level Red River Valley in its former lakebed and a series of beach ridges on its former eastern shore. The beaches themselves support dry prairie and savanna communities. Between the ridges, the interbeach zones support wet brush prairie, including the habitat of Minnesota's largest populations of western prairie fringed orchid.

Saturday trips included a choice of explorations of Polk County's Agassiz Dunes SNA and Thorson Prairie WMA with University of Minnesota, Crookston, instructor Rhett Johnson; or joining DNR botanists Derek Anderson and Nancy Sather to learn about the life history of the western prairie fringed orchid, assist with the annual census of flowering plants, and assist with demographic monitoring. A number of trip participants remained in the area to help DNR monitoring crews later in the week. A thank you is extended to all who helped; the monitoring could not have been completed in the short flowering window if it were not for volunteers.

On Sunday, about 25 people explored Skull Lake WMA and Caribou WMA with Robert Dana, who spent several years as an MCBS plant ecologist documenting native plant communities in Kittson County. Another group accompanied Nancy Sather, whose avocation is landscape history, in a retracing of the Pembina Trail Oxcart route along the beach ridges from Old Mill State Park in Marshall

County to Hwy. 2 in Polk County, stopping to view prairies and the Old Crossing of the Red Lake River along the way.

DNR preparing 10-year forest plan for Aspen Parklands

The DNR is preparing a Subsection Forest Resource Management Plan for the Aspen Parklands ecological subsection in northwestern Minnesota. They hope to implement the plan in 2010.

The plan is to provide strategic direction for vegetation management of the Aspen Parklands, to identify harvestable timber stands, and to outline harvest levels for the next decade.

The state manages about 12 percent of the area. Forests and woodlands (96,000 acres) will be considered for forest management; state brushlands and prairies (250,000 acres) will be considered for biomass. The remainder of state lands (9,000 acres) is in state parks or scientific and natural areas and will not be considered for forest management.

A public comment period was held Sept. 15 – 30. The planning team will now produce a document that addresses issues and provides a draft list of forest stands for possible harvest. They will seek public comment on that draft plan. For additional information, go to www.dnr.state.mn.us/forestry/subsection/aspenparklands/index



*Above: Western prairie fringed orchid, **Platanthera praeclara**.
Right: Some of the field trip participants exploring the savanna.
Photos by Derek Anderson.*



Plant Lore

by Thor Kommedahl

What is steplebush?

Steplebush, *Spiraea tomentosa*, is a member of the rose family. It is sometimes called hardhack.

What do its names mean?

Spiraea comes from the Greek word *speira*, a wreath. Theophrastus applied this name for plants used in making garlands. The name steplebush comes from the flower cluster, which is shaped like a church steeple or spire. *Tomentosa* refers to the tawny, woolly undersides of leaves. Hardhack means “hard to cut.”

Where do the plants grow?

It is native to the east-central counties in Minnesota. It grows in swamps and wet meadows, and often appears abundantly after a fire.

What do the shrubs look like?

The woody shrubs grow up to four feet tall. The alternate leaves are egg- or willow-leaf-shaped and have hairy undersurfaces; the veins are prominent. The red, pink, or magenta flowers are borne closely packed (6-10 per centimeter of axis) in panicle-like clusters and produce brown fruits (follicles) that mature September to mid-October, splitting open in November and December to shed seeds in winter.

Does it have edible or medicinal properties?

It is not edible. Roots and leaves were used as an astringent by Osage Indians and by herbalists. The Blackfeet Indians made tea from it to serve as an enema and for vaginal infections. It was a country remedy for dysentery.

Spiraea species contain methyl salicylate and other salicylates that are ingredients in aspirin. In fact, the term “aspirin” is derived as “a” for acetyl and “spir” from *Spiraea*. (Acetylsalicylic acid is aspirin.) The “in” is a standard suffix—because the salicylates were found

in *Spiraea*. As an inflammatory, *Spiraea* extracts lack the side effects of aspirin. Of course, salicylic acid was named from willow (*Salix* species), which also contains aspirin ingredients.



Spiraea tomentosa flower and shrub. Photos by Peter Dziuk.

MNNPS finances

Treasurers Ron and Cathy Huber report that on Sept. 30, the Society had total assets of \$26,255.82. Income for the year totaled \$11,003.26 mostly from dues and the symposium. Expenses totaled \$9,909.92; the largest were for the symposium and Dakota Lodge rent.

Reminder:

It's time to pay your dues

The Society now operates on a calendar-year basis, so dues are payable in January. Members may pay at the November or December meeting, if they wish. (We do not meet in January.)

We do not send out dues notices, so this reminder will be the only one that you receive.

You can download the membership form from our website (www.mnnps.org) or get one at a meeting.

Mail the form or just send the information and your check to:

Minnesota Native Plant Society
P.O. Box 20401
Bloomington, MN 55420.

Membership categories

- \$15 - Individual
- \$15 - Family (Two or more individuals at the same address)
- \$8 - Student (Full time)
- \$8 - Senior (Over 62 or retired)
- \$20 - Institution
- \$25 - Donor

Include your name, full address, telephone number (work and/or home) and e-mail address.

MNNPS welcomes new members

The Society gives a warm welcome to four new members who joined during the third quarter of 2009. They are:

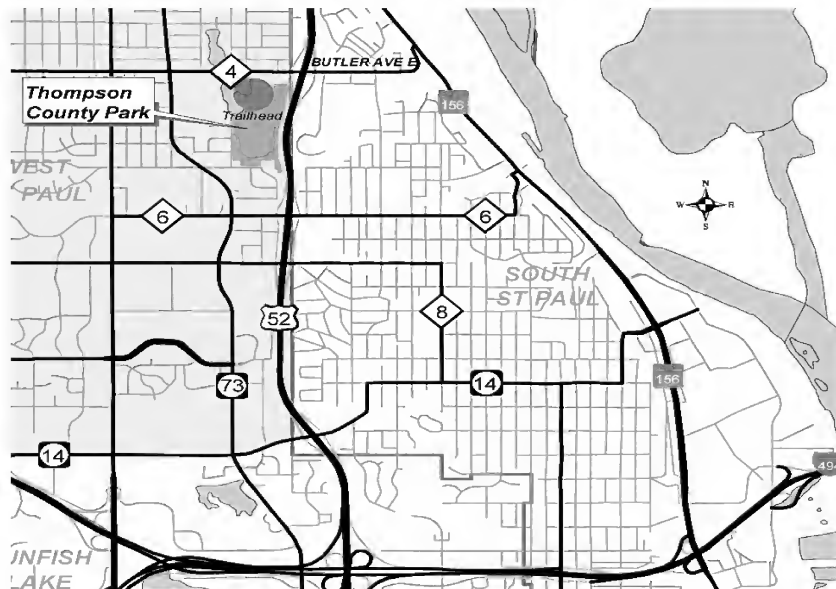
Debra Gagner, Minneapolis
Diane Lindgren, Edina
Jim Mulvey, St. Paul
Ramsey Conservation District,
Arden Hills

Minnesota Native Plant Society
P.O. Box 20401
Bloomington, MN 55420

Fall 2009

Thompson County Park:

360 Butler Ave East, West St. Paul, MN 55118



Directions:

Take MN Hwy. 52 to the Butler Ave. E. exit in West St. Paul.
Go west on Butler 0.2 mile to Stassen Lane.
Go south on Stassen Lane to Thompson County Park.